Application No.: 10/590,596
Amendment Dated: February 9, 2012
Reply to Office Action of: January 11, 2012

MAT-8894US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application No:	10/590,596
Applicants:	Kunio GOBARA et al.
Filed:	August 24, 2006
Title:	INFORMATION PROCESSING DEVICE, AND BUBBLE PACKET TRANSMISSION METHOD AND PROGRAM
T.C./A.U.:	2466
Examiner:	Brian S. Roberts
Confirmation No.:	8964
Docket No.:	MAT-8894US

DO NOT ENTER: /B.R./

AMENDMENT UNDER 37 C.F.R. § 1.116

Expedited Procedure

MAIL STOP AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Responsive to the Final Office Action dated **January 11, 2012**, please amend the above-identified application as follows:

☐ **Amendments to the Specification** begin on page of this paper.

☒ **Amendments to the Claims** are reflected in the listing of claims which begins on page **2** of this paper.

☐ **Amendments to the Drawings** begin on page of this paper and include an attached replacement sheet(s).

☐ **Amendments to the Abstract** are on page of this paper. A clean version of the Abstract is on page of this paper.

☒ **Remarks/Arguments** begin on page **7** of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An information-processing device at a communication source, that communicates with an information-processing device at a communication destination through a communication control device at the communication source, comprising:

a relay node counter that counts a number of relay nodes from the information-processing device at the communication source to a relay node relaying packets from a global address to an another global address;

a span of packet life setting part including a processor that sets a span of packet life of a bubble packet to be transmitted from the information-processing device at the communication source in order to open a port of the communication control device at the communication source, so that the bubble packet can reach the relay node relaying the packets from the global address to the another global address, based on the number of relay nodes counted by the relay node counter; and

a bubble packet transmitter that transmits the bubble packet having the span of packet life that the span of packet life setting part has set, through the communication control device at the communication source,

a communication control unit~~wherein the information-processing device at the communication source is~~ configured to receive a reply packet from the information processing device at the communication destination via the opened port of the communication control device at the communication source.

2. (Previously Presented) The information-processing device as claimed in claim 1, wherein

communication between the information-processing device at the

communication destination and the information-processing device at the communication source is performed through a communication control device at the communication destination; and wherein

the span of packet life setting part sets a span of packet life in a range in which the bubble packet does not reach the communication control device at the communication destination.

3. (Cancelled).

4. (Previously Presented) The information-processing device as claimed in claim 1, wherein

the span of packet life setting part sets a span of packet life so that the bubble packet can reach a relay node closest to the information-processing device at the communication source, out of relay nodes that relay packets from a global address to another global address.

5. (Previously Presented) The information-processing device as claimed in claim 1, wherein

the span of packet life setting part sets a span of packet life with increasing the number of relay nodes that the bubble packet can reach, by one every time the bubble packet transmitter transmits a bubble packet, until communication is established between the information-processing device at the communication source and the information-processing device at the communication destination.

6. (Previously Presented) The information-processing device as claimed in claim 2, wherein

the span of packet life setting part sets a span of packet life with which the bubble packet can reach a relay node located before the communication control device at the communication destination.

7. (Previously Presented) The information-processing device as claimed in claim 1, wherein

the span of packet life setting part sets a Time To Live (TTL) for the bubble packet.

8. (Cancelled).

9. (Previously Presented) The information-processing device as claimed in claim 1, wherein

the relay node counter counts the number of relay nodes with trace route.

10. (Cancelled).

11. (Previously Presented) A method of transmitting a bubble packet in an information-processing device at a communication source that communicates with an information-processing device at a communication destination through a communication control device at the communication source, comprising:

counting, a number of relay nodes from the information-processing device at the communication source to a relay node relaying packets from a global address to an another global address;

setting, a span of packet life of a bubble packet to be transmitted from the information-processing device at the communication source in order to leave a transmission history in the communication control device at the communication source, so that the bubble packet can reach the relay node relaying the packets from the global address to the another global address, based on the number of relay nodes counted by the counting step;

transmitting the bubble packet having the span of packet life that the setting step has set through the communication control device at the communication source;

opening, by the communication control device at the communication source, a port of the communication control device at the communication source to accept a reply packet from the information-processing device at the communication destination responsive to sending the bubble packet; and

receiving, by the information-processing device at the communication source, the reply packet from the information-processing device at the communication destination via the opened port of the communication control device at the communication source.

12. (Cancelled).

13. (Previously Presented) The information-processing device according to claim 1, the device further comprising

a communication control unit for transmitting a port-detecting packet for notifying a server which intermediates communication to the information-processing device at the communication destination, of a global IP address and a port number through which the bubble packet, transmitted from the information-processing device at the communication source, passed the communication control device at the communication source.

14. (Previously Presented) The information-processing device according to claim 13, wherein the communication control unit receives a reply packet from the information-processing device at the communication destination to which the global IP address and the port number of the information-processing device at the communication source is notified, so that communication between the information-processing device at the communication source and the information-processing device at the communication destination bypassing the server is established.

15. (Previously Presented) The method according to claim 11, further comprising

transmitting, by a communication control unit, a port-detecting packet for notifying a server which intermediates communication to the information-processing device at the communication destination, of a global IP address and a port number through which the bubble packet transmitted from the information-processing device at the communication source passed the communication control device at the communication source.

16. (Previously Presented) The method according to claim 11, further

comprising:

transmitting a port-detecting packet to notify a server which intermediates communication to the information-processing device at the communication destination, of the global IP address and the port number through which the bubble packet, transmitted from the information-processing device at the communication source, passed the communication control device at the communication source;

receiving, by the communication control device of the communication source, the reply packet from the information-processing device at the communication destination to which the global IP address and the port number of the information-processing device at the communication source is notified; and

establishing communication between the information-processing device at the communication source and the information-processing device at the communication destination bypassing the server.

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Remarks/Arguments:

Claims 1-2, 4-7, 9, 11 and 13-16 are pending. Claims 1, 2, 4-7, 9, 13 and 14 are rejected. Applicants acknowledge with appreciation the indication that claims 11, 15 and 16 are allowed and that claims 1, 2, 4-7, 13 and 14 would be allowable if the Examiner's suggested amendment to claim 1 is incorporated.

Rejections under §112

Claims 1, 2, 4-7, 9, 13 and 14 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite. Applicants have amended claim 1 to incorporate the Examiner's proposed language and respectably submit therefore that claim 1 is allowable.

Claims 2, 4-7, 9, 13 and 14 are likewise allowable as indicated by the Examiner on page 3 of the Office Action.

In view of the amendments and remarks set forth above, Applicants submit the application is in condition for allowance, which action is respectfully requested.

Respectfully submitted,

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